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EXAMINER

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ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/769,309

Applicant(s)

FURUKAWA ET AL.

Examiner

Andy S. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-14 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-14 and 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Arguments***

1. As per the applicants' instructions as filed in Paper 10 on 4/8/04, claim 1 and 15 has been canceled.
2. Applicant's arguments filed with respect to amended claims 2-14, and 16-19 as in Paper 10 on 4/8/04 have been fully considered but they are not persuasive.
3. The Applicants present eight arguments contending the Examiner's rejection of previously presented claims 1-19 under 35 U.S.C. 102(e) as being anticipated by Boice et al. (hereinafter referred to as "Boice"), as was set forth in the previous Office Action of Paper 7 submitted on 12/2/03. However, after a careful consideration of the arguments presented and further scrutiny of the Boice teaching, the Examiner respectfully disagrees for the reasons that follow, and maintains Boice as the grounds of rejection against the amended claims that follows below.

After summarizing the instant invention (Paper 10: page 16, lines 23-24; page 17, lines 1-19), the Applicants argue that Boice fails to disclose setting a quantization step size based on luminance distribution as recited in amended claim 2, but rather on average picture quality (Paper 17: page 17, lines 20-24; page 18, lines 1-14). The Examiner respectfully disagrees. It is noted that determination of average picture quality includes the determination of an average complexity statistic for the average Mquant (Boice: column 14, lines 15-25). This average complexity statistic (Boice: column 12, lines 10-20) is derived from a distribution of luminance (Boice: column 9, lines 30-35) and serves to indicate the amount of details in the frame (Boice: column 9, lines 36-41). Accordingly, the Examiner maintains that this limitation is met.

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Secondly, after summarizing the instant invention as amended claim 3 (Paper 10: page 18, lines 15-23; page 19, lines 1-4), the Applicants argue that Boice fails to disclose classifying scenes based on a statistical feature amount relating to a motion vector as in the claim (Paper 10: page 19, lines 5-17). The Examiner respectfully disagrees. It is noted that the interpixel sums are used to determine the direction of a fade, and not the presence of one (Boice: column 10, lines 40-55). It is noted that since the fade is considered by Boice to be a slow scene change, that slowness of a changing in a scene is actually determined with the motion vector thresholding function (Boice: column 12, lines 13-19: “(1) motion vectors...” ) of the scene change detection (Boice: column 10, lines 10-15). According the Examiner maintains that the limitation is met.

Thirdly, the Applicants argue that Boice fails to disclose “...a statistical feature amount from a number of motion vectors...”, “...a distribution of motion vectors...”, and “...a vector size...” (Paper 10: page 19, lines 18-23; page 20, lines 1-10). The Examiner respectfully disagrees. It is noted that the variance of vectors from consecutive frames reads on a statistical feature amount (Boice: column 10, lines 10-15). The second feature is met by motion vector statistical analysis of global motion versus local motion (Boice: column 9, lines 25-30). That is whether motion in the current figure is distributed over the whole frame, such as in a controlled pan, tilt, zoom function, or whether the motion is due to some localized object within the frame. The last feature is met by Boice’s disclosure of comparing vectors magnitudes versus a threshold (Boice: column 10, lines 30-35), especially when accounting for false motion (Boice: column 7, lines 52; column 8, lines 1-2). And since each of these features compose the motion vector statistics for the encoding subsystem (Boice: column 12, lines 5-20), the Examiner maintains that this limitation is met as well.

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Fourthly, after summarizing the instant invention as recited in amended claims 8, 10, 11 (Paper 10: page 20, lines 11-18), the Applicants argue that Boice fails to disclose using both a frame rate, quantization step size, and a bit rate, as in the claims (Paper 10: page 20, lines 19-23), as in the claims. The Examiner respectfully disagrees. It is noted that for the frame rate, Boice meets this by using "repeat fields" in the statistics accumulation (Boice: column 12, lines 10-20). Repeat fields are present when one is displaying an original film source for TV (24fps to 30fps). As such the accumulation of repeat fields in Boice would be coding according to a desired frame rate. The second feature is a function of modulating Mquant which is derived from the most recent quantization step size and an average quantization step of pictures of the same type (Boice: column 13, lines 35-45). And the last feature is met by adjusting Mquant in conjunction the use of a target quality monitoring bit consumption, or bit rate (Boice: column 13, lines 40-30), or a target bit rate not concerned with a quality factor (Boice: column 12, lines 60-65). Accordingly, the Examiner maintains that the limitation is met.

In addition, the Applicants argue that with regards to amended claim 11, Boice fails to disclose determining a quantization step size, and an interval between frames to be encoded, using an occupancy of a virtual buffer (Paper 10: page 21, lines 1-6). The Examiner respectfully disagrees. The first feature is a function of modulating Mquant which is derived from the most recent quantization step size and an average quantization step of pictures of the same type (Boice: column 13, lines 35-45). It is further noted that coding according to a GOP as disclosed (Boice: column 11, lines 10-15; column 8, lines 5-27) reads on the "interval" limitation. Lastly, the "occupancy" limitation is implemented on the VBR configuration of Boice, where the virtual buffer verifier would be used to ensure against overflow/underflow conditions of the buffer

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(Boice: column 14, lines 40-50). Accordingly, the Examiner maintains that these limitations are met.

Furthermore, with regards to amended claim 9, the Applicants argue that Boice fails to disclose correcting according to a target bit rate as in the claim (Paper 10: page 21, lines 7-12). The Examiner vehemently disagrees. It is noted that Boice discloses adjusting Mquant to attain a target quality, thereby changing the bit rate consumption (Boice: column 13, lines 38-48). Now, correcting according to a target bit rate is also anticipated by the reference (Boice: column 12, lines 60-65: "target bit rate"). Accordingly, the Examiner maintains that the limitation is met.

Additionally, after summarizing the instant invention as in amended claim 12 (Paper 10: page 21, lines 13-23; page 22, lines 1-2), the applicants argue that Boice fails to disclose the determination of a scene change over three frames (Paper 10: page 22, lines 3-7). The Examiner respectfully disagrees. It is noted that scene change of a fade or dissolve would occur over more than two frames, and thus fade detection would be over more than two frames (Boice: column 10, lines 40-55). Furthermore, Boice discloses that in determining a scene change, a current frame is compared to a last picture, and compared to a next frame in the sequence to make sure that it belongs to the new scene in order to reset the encoding parameters (Boice: column 12, lines 60-67; column 13, lines 1-3). This also anticipates a three frame comparison as in the claim.

Lastly, after summarizing amended claim 13 (Paper 10: page 22, lines 8-11), the Applicants argue that Boice fails to disclose "...a motion compensation residual error...", "...and an average of the variance..." as in the claims (Paper 10: page 22, lines 12-17), as in the claim. The Examiner respectfully disagrees. Motion vectors are a result of motion compensation error and that's why they were cited. However, in noting that Boice discloses generating a

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myriad of interframe statistics, the Examiner notes that “prediction error” is one of the list of statistics generated (Boice: column 12, lines 10-20), and would read on the “motion compensation residual error” limitation. As to the variance limitation, it is noted that Boice discloses the average activity as the average of macroblock variances in a frame (Boice: column 9, lines 43-47), and since this calculated from luminance data (Boice: column 9, lines 30-34), it meets the limitation of the claim.

A detailed rejection follows below.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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5. Claims 2-14 and 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Boice et al., (hereinafter referred to as "Boice").

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the encoding parameter generator section includes a setting unit configured to set a weight to a quantization step size for macroblocks (Boice: column 13, lines 49-65; column 14, lines 14-24), as in claim 2.



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Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the classification unit is configured to classify scenes into a plurality of scene types (Boice: column 10, lines 40-60), as in claims 3-4.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for

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each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), the feature amount computation section is configured to extract the number, distribution, and size of motion vectors (Boice: column 10, lines 10-15; column 12, lines 12-15), a motion compensation residual error (Boice: column 7, lines 50-53; column 8, lines 1-4), and luminance and chrominance variance (Boice: column 6, lines 65-67; column 9, lines 65-67; column 10, lines 1-10) as features amounts as in claims 5-7.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured

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to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the number of generated bits prediction is configured to calculate the number of generated bits for each scene (Boice: column 13, lines 5-10 & 30-37), as specified in claim 8.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter

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generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), correcting a bit rate for each scene (Boice: column 12, lines 60-63; column 13, lines 38-67), as in claim 9.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured

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to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), that the encoder section is configured to receive a bit and frame rate (Boice: column 12, line 15) which are specified for each scene (Boice: column 12, lines 60-65; column 13, lines 1-14), as in claim 10.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-

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50), and a determination unit is configured to receive a bit rate (Boice: column 12, lines 60-65) specified for each scene (Boice: column 14, lines 14-23) as the corrected encoding parameter (Boice: column 13, lines 37-47), and determine the quantization step size (Boice: column 11, lines 5-50), as in claim 11.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), and a determination unit for determining a second frame as a delimiter for separating the scenes (Boice: column 10, lines 13-34; column 12, lines 63-65), as in claim 12.

Boice discloses a video encoding apparatus (Boice: figure 5), comprising: a feature amount computation section (Boice: column 7, lines 30-40) configured to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); an encoding parameter generator section configured to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); a number of generated bits prediction section configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); an encoding parameter correcting section configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); an encoder section configured to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); and an output section configured to output the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the feature amount computation section is configured to compute motion vectors of the macroblocks (Boice: column 10, lines 10-15), as in claims 13-14.

Boice discloses a video encoding method (Boice: figure 9), comprising: dividing an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2); computing a statistical feature amount for each scene (Boice: column 12, lines 7-20); encoding parameter (Boice: column 11, lines 1-40)

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for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); predicting the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); correcting the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); encoding the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); outputting the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the encoding method includes a setting unit configured to set a weight to a quantization step size for macroblocks (Boice: column 13, lines 49-65; column 15, lines 14-24) of the statistical feature amount relating to a distribution of luminance for each macroblock (Boice: column 9, lines 30-50), as specified in claim 16.

Boice discloses a video encoding method (Boice: figure 9), comprising: dividing an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2); computing a statistical feature amount for each scene (Boice: column 12, lines 7-20); encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); predicting the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); correcting the encoding parameter based on a result of the prediction of the number of generated bits which is obtained



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by said number of generated bits prediction section (Boice: column 13, lines 10-67); encoding the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); outputting the encoded bit stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the feature amount computing step discloses classifying scenes into a plurality of scene types (Boice: column 10, lines 40-60), as in claims 17-18.

Boice discloses a recording medium having a computer program recorded therein for encoding an input video signal (Boice: column 14, lines 60-67), said computer program comprising: instruction means for instructing the computer to divide an input video signals into a plurality of scenes (Boice: column 10, lines 14-55) each comprising at least one temporally continuously frame (Boice: figure 2), and compute a statistical feature amount for each scene (Boice: column 12, lines 7-20); instruction means for instructing the computer to generate an encoding parameter (Boice: column 11, lines 1-40) for each scene based on the statistical feature amount computed by said feature amount computation section (Boice: column 10, lines 55-65); instruction means for instructing the computer to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by said encoding parameter generator section (Boice: column 12, lines 60-65); instruction means for instructing the computer to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by said number of generated bits prediction section (Boice: column 13, lines 10-67); instruction means for instructing the computer to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream (Boice: column 12, lines 1-5); instruction means for instructing the computer to encoded the encoded bit

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stream generated by said encoded section as an encoded output (Boice: column 14, lines 35-50), wherein the encoding method includes a setting unit configured to set a weight to a quantization step size for macroblocks (Boice: column 13, lines 49-65; column 15, lines 14-24) of the statistical feature amount relating to a distribution of luminance for each macroblock (Boice: column 9, lines 30-50), as in claim 19.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (703)-305-4813. The examiner can normally be reached on Monday-Friday 8 hours.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (703)-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao  
Primary Examiner  
Art Unit 2613

ANDY RAO  
PRIMARY EXAMINER

asr  
May 26, 2004